



U.S. Department
of Transportation

Federal Aviation
Administration

TECHNICAL STANDARD ORDER

TSO-C92b, Ground Proximity Warning-Glide Slope Deviation Alerting Equipment

Ground proximity warning-glide
slope deviation alerting equipment;
TSO-C92b.

[(a) Applicability-Minimum performance standards.] This Technical Standard Order prescribes the minimum performance standards that ground proximity warning-glide slope deviation alerting equipment must meet in order to be identified with the applicable TSO marking. Equipment to be so identified must meet the minimum performance standards prescribed in Radio Technical Commission for Aeronautics (RTCA) Document No. DO-161A, titled "Minimum Performance Standards, Airborne Ground Proximity Warning System" (DO-161A), revised May 27, 1976, with the exception specified in paragraph (c) (4) of this section, and the additional standards contained in paragraphs (e) (1) through (c) (3) of this section.]

[(b) Environmental standards.] RTCA Document No. DO-138, dated June 27, 1968, including Change Number 2, dated October 29, 1969, or RTCA Document No. DO-160, dated February 28, 1975, both titled "Environmental Conditions and Test Procedures for Airborne Electronic /Electrical Equipment and Instruments", must be used to determine the environmental conditions over which the equipment has been designed to operate.

[(c) Additional standards and exception.]

[(1) Fire protection.] Except for small parts (such as knobs, fasteners, seals, grommets, and small electrical parts) that the Administrator finds would not contribute significantly to the propagation of a fire, all

materials used must be self-extinguishing when tested in accordance with the requirements of § 25.853 and § 25.1359 (d), as applicable, and Appendix F to Part 25 of this chapter, effective May 1, 1972, except that the materials may be of a size and be mounted for the test in accordance with paragraph (b) of Appendix F or may be of a size and be mounted as used in the aircraft.

[(2) Aural and visual warnings.] The required aural and visual warnings must initiate simultaneously.

[(3) Deactivation control.] If the equipment incorporates a deactivation control other than a circuit breaker, the control must be a switch with a protective cover. The cover must be safety wired so that the wire must be broken in order to gain access to the switch.

[(4) Mode 4 flap warning inhibition.] A separate guarded control may be provided to inhibit Mode 4 warnings based on flaps being in other than the landing configuration.]

(d) Markings. In addition to the markings specified in § 37.7(d), the equipment must be marked as follows:

(1) The environmental categories over which it has been designed to operate as set forth in Appendix B of RTCA Document No. DO-138 or Appendix A of Document No. DO-160 must be permanently and legibly marked on the equipment. Where an environmental test procedure is not applicable and the test is not conducted, an "X" must be placed in the space assigned for that category.

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(2) Each separate component of equipment (computer, transducer, etc.) must be permanently and legibly marked with, at least, the name of the manufacturer, the TSO number, and the environmental categories over which it has been tested.

(e) *Data requirements.* In accordance with § 37.5, the manufacturer must furnish to the Chief, Engineering and Manufacturing Branch, Flight Standards Division (or in the case of the Western Region, the Chief, Aircraft Engineering Division) Federal Aviation Administration, in the region in which the manufacturer is located, one copy of the following technical data, except that additional copies must be furnished upon request:

(1) Manufacturer's operating instructions and equipment limitations.

(2) Installation procedures with applicable schematic drawings, wiring diagrams, and specifications. Any limitations, restriction, or other conditions pertinent to installation must be included.

(3) List of the components (by part number) that make up the equipment system complying with the standards prescribed in this section.

(4) Equipment data sheets specifying, within the prescribed ranges of environmental conditions, the actual performance of equipment of that type with respect to each performance factor prescribed in the standard.

(5) Manufacturer's test report.

(f) *Data to be furnished with each manufactured WW?* One copy of the data and information specified in paragraph (e)(1), (e)(2), (e)(3), and (e)(4) of this section must be furnished to each person receiving for use one or more articles manufactured under this TSO.

(g) *Availability of referenced documents.* RTCA Document Nos. DO-138, dated June 27, 1968, including Change Number 2, dated October 29, 1969, DO-160, dated February 28, 1975, and DO-161A, revised May 27, 1976, are incorporated herein in accordance with 5 U.S.C. 552 (a) (1) and § 37.23 and are available as indicated in § 37.23. Additionally, RTCA Document Nos. DO-138, DO-160, and DO-161A may be examined at 'any FAA Regional Office' of the Chief, Engineering and Manufacturing Branch (or, in the case of the Western Region, the Chief, Aircraft Engineering Division). And may be obtained from the RTCA Secretariat, Suite 655, 1717 H Street, N.W., Washington, D.C. 20006 at a 'cost of \$16.00 per copy for Document No. DO-138, \$20.00 per copy for Document NO. DO-160, and \$16.00 per copy for Document No. DO-161A.

(h) *TSO-C92a equipment.* TSO authorizations for the manufacture of ground proximity warning-glide slope deviation alerting equipment may continue to be obtained under TSO-C92a and equipment approved under TSO-C92a may continue to be manufactured under its original approval.